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EDITORIAL

THE PROGRAM FOR 1925

Before the holiday season begins this year much of the program for the 1925 meeting at Spartanburg will be under way. Most of the committees appointed by President D. M. Crosson have been active in their special departments preparing for the Spartanburg meeting. The Scientific Committee is an unusually strong one and there is no doubt about the high character of the program they will suggest. The personnel is as follows: Dr. F. H. Dieterich, Professor of Pathology Medical College, Charleston, Chairman; Dr. J. W. Jervey, Greenville, Dr. LeGrande Guerry, Columbia. It is probable that two symposia, one for each day of the annual season will be provided and contributors invited for each. The Chairman of the Committee will appreciate suggestions from the members as to the subject matter of this or any other part of the program.

Dr. J. E. Edwards has been appointed by the Spartanburg Society Chairman of the Steering Committee on Arrangements. The Secretary of the State Association has already visited Spartanburg and conferred with the local committee chairman in regard to tentative details for the next meeting.

To surpass the Orangeburg meeting will require extraordinary efforts on the part of everybody concerned. The attendance there was near the four hundred mark.

Spartanburg has unusual facilities for accommodating a large Medical Convention. The hotels are ample. Railroad and auto-

mobile service will be all that any one could ask for. The hospital facilities for holding the clinics already planned are most excellent. The third week in April, 21st, 22nd, 23rd, is the most fortunate time for our Association to hold its meeting. All of the nearby State Associations have changed their dates so there will be no conflict as has been the case from time immemorial.

GREETINGS

The Journal is now in its twentieth year and has been placed on the desks of nearly one thousand South Carolina doctors for these two decades. The question was asked the Editor recently. "Is the Journal read?"

We have no means of knowing this but we believe that the average busy practitioner who is successful is perforce absolutely dependent upon current periodical medical literature for inspiration and guidance in his practice. The Editor often receives encouragement from widely separated sections and therefore he is constrained to believe that the members of the State Association are interested in its progress for in the main the Journal has had most loyal support for these twenty years. Suppose we take a look at the first issue, June 21st, 1905 published at Charleston, S. C., edited and managed there by the following staff; Robert Wilson, Jr., Editor, T. P. Whaley, Associate-Editor, C. P. Aimar, Managing Editor. The leading editorial called attention to the fact that Dr. W. P. Porcher of Charleston as President of the Association five years previous suggested a Journal instead of annual transactions. This editorial appealed for cooperation on the part of the members and especially society officers to send to the Journal important papers, news items, etc., for publication. Another editorial announced the beginning of the compulsory vacccination act of the General Assembly. It would be interesting to know just how many people are not vaccinated in South Carolina twenty years after this law was enacted. We are confident that the law has been of inestimable benefit in the schools, especially; but every year smallpox prevails in many sections of the State. It should not be so with an absolute preventative so readily available. Again another editorial alludes to the first meeting of the National Association for the Study and Prevention of Tuberculosis and calls attention to a committee appointed by the State Association to begin active work in the name of the South Carolina Medical Association against the great white plague. The late Dr. John L. Dawson of Charleston who had himself been reclaimed from this dread malady was appointed Chairman of the committee. Dr. Dawson immediately organized the State for a valiant fight. He was eminently successful and as a result of this publicity the State some years later appropriated the money to erect a State Sanatorium at State Park eight miles from Columbia and placed its management under the State Board of Health. Continued generosity on the part of the State has enabled the Board to enlarge this institution from year to year. In the meantime the mortality from tuberculosis has been greatly reduced throughout the world.

In the first decade the Journal had five different editors, all of them men of marked ability and the Journal was published in as many different localities. It is interesting to notice the finances of the Association. The treasurer reported a balance of $262.-22. The assets of the Association at the present approximate $3000.00, due largely to a consistent advertising policy of attracting and holding the best patrons. We owe much to our advertisers for their assistance in keeping the Journal in the front rank of the smaller State Journals of the United States. Although the cost of printing has quadrupled since that first number was printed twenty years ago the Journal now presents a highly creditable appearance from the make up standpoint. The paper is of good weight, the type easily readable, the extra cover attractive.

We would not do justice to the occasion if we failed to mention the high class scientific articles appearing in recent years and especially the contributions the past year by the members of the Associate Staff. This latter feature has stimulated a much greater interest in the Journal. The present editor is profoundly grateful for the loyal cooperation of the members of the State Medical Association.

Most cordial Christmas greetings therefore are extended to the readers of the Journal for Christmas 1924.

ORIGINAL ARTICLES

A DEFINITE PROGRAM FOR 1925

Frederick C. Warnshuis, M. D., Secretary Michigan State Medical Society, Grand Rapids, Michigan.

Before I address myself to the subject I wish to make it quite clear that I have not the desire to pose as a director or an authority. The suggestions that will be presented represent present conclusions that have been reached. They are advanced for the purpose of submitting a basis from which, by our combined experiences, judgment and discussion, it is hoped that a desired outline of uniform activity for 1925 may result.

For some twelve years I have been privileged to attend these annual conferences. That they are valuable has long since been established. That good has come from them is attested to. In my administrative work I have derived much that has been of value and assistance. The acquaintanceship that has been fostered I prize most highly. However, in spite of these acknowledged benefits there has been growing on me a feeling that is hard to put aside, that we as state secertaries are not obtaining all that can and should result from these annual meetings. Are we profiting as we should? Are our component state units and our American Medical Association neglecting an opportunity?

Read before the annual conference of Secretaries and Editors of State Medical Associations, Chicago, Illinois, November 21st, 22nd, 1924.

Organization and organized effort succeed just so far as they meet up to the principles that inspire and govern their existence. It is these principles that determine prestige and accomplishments. It follows that unless these principles and policies are comprehensive, the purposes and achievements of an organization or association will be narrow and limited or broad and inclusive. If we are to attain the greatest ends, achieve the greatest good and contribute a maximum amount of assistance to our membership and the public at large, it is quite essential and important that our principles and purposes shall include certain definite and basic objects that are expressed in a program to guide our individual and collective efforts in a uniform execution of them by each component unit, thereby establishing a national program of sustained action.

I have frequently, and for a long period of time, meditated on this problem. I have reviewed, criticized and appraised our scheme of organization, the work that was being done and the results that were being obtained. I have endeavored to analyze them, diligently seeking to determine what were and what were not basic fundamentals. The quest has been to sift out and formulate in concrete terms primal objects to justify, inspire and direct our work. The result of this study and thought has been the formulation of four principles that are expressive of desirable objectives that we as county, state and national units should seek

to attain. They are advanced at this time with considerable hesitation. I purpose to outline in some detail the first principle as a definite recommendation that it comprise our program for 1925. The terms used to express these definite objectives are simple, but lend themselves to broad interpretation and are:

1. Acquaintance—to bring about understanding.
2. Fellowship—to establish good will.
3. Friendship—to encourage brotherhood.
4. Education—to increase individual efficiency.

ACQUAINTANCE—TO BRING ABOUT UNDERSTANDING

At first thought, one will hesitate to accept this as the first fundamental object that is basic for our organized existence and work. Permit me to enlarge on all that is included in the term acquaintance, and what can be made to result from an acquaintanceship that is employed to bring about understanding.

Membership is fundamental; that will be acknowledged. The last annual report of our Secretary imparts that there are 145,966 graduates of medicine in this country. He further imparts that there are 3,047 county medical societies comprise our component state societies and have a membership of 90,056 physicians. That the total Fellowship of the American Medical Association was 51,063, April 1, and is now more than 55,000. These figures furnish much for thought, if one analyzes them. The query is pertinent: Why, of the total number of physicians in this country, are there only 90,056 members of county societies and why are only 56.8 per cent. of these county society members Fellows of the American Medical Association? Is not the answer lack of acquaintanceship? Acquaintanceship with the principles and purpose that our organizations are based on and what they are attempting and how they are and can be of greater value to the individual physician if he but knew—had acquaintanceship with our work and more intimate contact with that which is being done. You and certain others know what we are striving for. Now reflect on that large number of practitioners who are totally ignorant, uninformed and misinformed. Go back to your own state, your own county, your own city and recall how many of the physicians that you are in more or less contact with who are in great ignorance regarding the work of your state society and who know nothing as to the American Medical Association.

There can be no argument as to our plan of organization, what has been attained and our future quests. We who know are justly proud of it. We point with proper pride to that which has been wrought, to the efforts that have been expended and to the splendid manner in which our officers and executives have performed the duties that have been entrusted to them. We are elated with these headquarters and the spirit that emanates from them. But—we are in a minority, for 50,000 physicians are uninformed on the subject, and among the 90,056 physicians who are members of state societies some 40,000 are in partial or complete ignorance. Were this ignorance dispelled, I am certain that our state and national membership enrollment would advance to if not exceed the 100,000 mark. I hasten at this time to add that I am not advancing numerical membership as the final and most desired end of organization. Numerical strength is not and should not be our goal. Numerical strength should be sought only as an index that attests to the justification of existence. I might continue to enlarge further on this first foundation principle of acquaintanceship, for it lends itself to broad interpretation and application. I shall desist doing so and concern myself from now on with its application to being our definite program for 1925.

How shall it be applied? Here again I

shall for brevity's sake set forth in table form:

Acquaintanceship—to bring about understanding.

A. Of the American Medical Association:
1. Its history and development.
2. Plan of organization, its constitution and by-laws.
3. Administration:
   (a) Official personnel.
   (b) Headquarters.
   (c) Work and achievements.
   (d) Service it renders to the physician.
4. The Journal and other publications.
5. Requirements for Fellowship.
6. Benefits of Fellowship.

B. State society:
1. Organization.
2. Officers and council.
3. Activities.
4. Membership relationship.
5. Membership qualifications and benefits.

C. Individual responsibility to:
   (a) County, state and A. M. A. organizations.
   (b) Fellow practitioners.
   (c) Community.
   (d) Humanity.

This is the definite program that I submit for 1925. That we as state officers and editors of medical journals convey this information, this knowledge, if you so please to term it, to the physicians of this country. In developing this acquaintanceship the result that is bound to ensue is an increase of numerical strength that will be an index to apply the four basic principles that have been advanced. It will be promptly perceived that this acquaintanceship will eventually produce results that more nearly express the ends that are being sought.

To that end, then, do I proffer this program:

First: That as we return to our home states we pledge ourselves to concentrate, so far as possible, in causing the medical men of our state to become fully informed and acquainted with all that medical organization as represented by our county, state and American Medical Association is and stands for and what it is doing.

Second: That this information be continuously distributed and conveyed to the informed and uninformed by means of:

A. Special articles, editorials, comments and advertisements appearing in each issue of our state publication.

B. That county secretaries be requested to act as local representatives for their counties and that they be supplied with application blanks for membership.

C. That, as we send certificates for 1925 state membership we include a plea and application for A. M. A. Fellowship.

D. Through such other avenues as may be determined.

Three: That we solicit Fellowship affiliation. Means and methods will suggest themselves as we become enthusiastic in this program and as we apply ourselves to its institution. One avenue that merits our thoughtful consideration is the county society unit. Have we not been neglecting state interest in our county societies, and is that not the reason why each state organization has a varying number of county societies that are dead or exist in name only? We need a greater acquaintance and a more intimate one with our county societies and their officers. We must manifest more interest in their activities and we greatly need to rejuvenate their spirit of work. In our 1925 program we must not lose sight of the county society, and we may well utilize this avenue for a greater application of our purpose to establish acquaintanceship.

I would also suggest that our national Secretary cause to be compiled a concrete tabulation of the activities that emanate from national headquarters, including our councils, bureaus, publications, laboratory, directory and full-time executives. That this tabulation be imparted to our state membership in the most effective manner.

My final recommendation is that this conference pledge itself to this program and that we individually sincerely determine that

we will go forth and by our zeal and effort cause 1925 to witness our bringing to the graduate doctors of medicine of this country a full degree of information that will firmly establish an acquaintanceship with our medical organizations that will beget an understanding in such full degree as will cause them to enroll as members and thus attain in a greater degree that which we have announced as the objects that govern our federacy.

DEVELOPMENT OF MEDICAL EDUCATION IN THE UNITED STATES

N. P. Colwell, M. D., Secretary of the Council on Medical Education and Hospitals of the American Medical Association.

Prior to 1765 students from America necessarily went abroad for their medical education, mainly to the medical schools of Edinburgh, London and Paris. Between 1765 and 1825, however, nineteen medical schools were organized in this country, thirteen of which are still existing. These, as they are now known, and the years when they were organized, are the medical schools of the University of Pennsylvania, 1765; Columbia, 1767; Harvard, 1782; Dartmouth, 1797; University of Maryland, 1807; Yale, 1813; Louisville, 1817; Cincinnati, 1819; Vermont, 1822; and the Medical College of the State of South Carolina, 1824. In 1825 there were three medical colleges organized which are still existing—those of Columbian University, Washington, D. C., now the George Washington University, Jefferson Medical College and the University of Virginia.

The Medical College of the State of South Carolina, therefore, was the sixteenth medical school organized in the United States, or the tenth of those which are still existing.

After 1800 the number of medical schools was rapidly increased until in 1860 there were sixty-five medical schools. During the Civil War, nineteen medical schools were suspended twelve of which resumed teaching in 1865. Thereafter, the number of medical schools was rapidly multiplied, reaching 100 in 1880 and 160 in 1900. The highest number was 162 in 1906. These figures do not include about twenty institutions which were exposed as diploma-mills and several others which were organized but never held classes.

MEDICAL INSTRUCTION

The early course of medical instruction extended over two annual sessions of about 6 months each, these being in two separate calendar years. This time was quite ample for a review of the knowledge of medicine available at that time. The more important part of the student's instruction, perhaps, was the time spent with a preceptor in the actual observation of patients and the methods followed by his preceptor, not only in diagnoses and treatment, but in the making and collecting his fees. Text books and lectures at that time dealt mainly with theories based on the observation of patients and the results of various methods of treatment employed. For centuries all the knowledge of medicine that was available consisted of collections of empirical data, the reliability of which varied considerably. Physicians then had to depend largely on their unaided senses, but nevertheless, frequently attained great skill in the description, recognition, prognosis and treatment of diseases. Indeed, an article published just recently includes a significant statement that diagnoses in tuberculosis are often not so good today "because of too great dependence on roentgenray evidence." 2.

Read at the Centennial celebration of the One Hundredth Anniversary of the founding of the Medical College of the State of South Carolina, Charleston, S. C., November 11th, 12th, 1924.

2. "The Ex-Service Man and His Lungs," Journal, American Medical Association, November 8, 1924, page 1490.

In some of the earliest medical schools high standards of preliminary education were required. Of the physicians graduated by Harvard up to and including 1840, 65 per cent. also held baccalaureate degrees. A college degree was at first required for admission to the medical school of the College of Philadelphia. With the rapid expansion of the country, however, the frontier was being pushed rapidly westward, new towns and cities sprang up and the demand for physicians was greatly increased. Medical schools rapidly multiplied, including many of which were scantily equipped, having no laboratories and no hospitals; some did not even require dissection and entrance requirements were nominal, or lacking. Many of these colleges were conducted for the profit of their owners. With such competition, it was difficult for the better schools to continue their higher entrance requirements so that, even in these, all students admitted were not required to possess a college education.

Nevertheless, some of the better medical schools continued to attract many students who possessed degrees in arts or science and who in a few colleges at least constituted a majority of their enrollments.

The number of medical colleges increased more rapidly than the population, and the supply of physicians soon far exceeded the demand. By 1880 the United States had 1 physician for every 560 * people,—two or three times as many as were found in other countries.

It was well known among physicians, and especially those who were familiar with medical education in Europe, that most of the medical schools of the United States had lower entrance requirements and in many other respects were decidedly inferior to those abroad. With a few exceptions, the course of instruction was ungraded, one course of lectures being given alike to the students of the two classes. The value of the lectures depended on the actual knowledge and teaching ability of the lecturer. Occasionally, there were teachers of rare ability who, in spite of their handicaps, developed a high degree of skill in diagnosis and treatment, as well as ability to impart knowledge and, fortunately, many students were attracted to the colleges with which these teachers were connected.

But the demand for improvements in medical education was not lacking. In 1846, when the American Medical Association was organized, its chief object was the improvement of medical education in the United States. At its annual meetings papers were frequently presented calling attention to the serious conditions existing and demanding improvement. At different times special committees were appointed who, after thorough investigations, presented exhaustive reports, but without marked results. This agitation, however, led in the early 60's to the gradual development of the graded course of instruction.

Ranch, reports of the Illinois State Board of Health.

Unfortunately the demands for improvement were not given persistent publicity, and conditions actually became worse. During the 70's there were organized—mostly legally chartered—a stream of medical schools without laboratories, witl.out teachers and without dispensaries and hospitals. Some, indeed, were without classes but were engaged in the actual sale of diplomas.

THE ILLINOIS STATE BOARD OF HEALTH

The first effective and persistent influence toward improvement occurred in the early 80's through work carried on by the Illinois State Board of Health under the direction of Dr. John H. Rauch, who for twenty-one years continuously was its executive officer. Through the collection of exact information in regard to the medical schools, Dr. Rauch exposed a score or more of diploma-mills and refused to examine the graduates of several low grade medical schools. As an essential for "recognition" medical colleges were required to insist on a high school education for admission and to stop the practice of some of them of grad-

Ranch, reports of the Illinois State Board of Health.

by a thousand or more students each year. In 1923-24 there were 17,728 and present figures indicate an enrollment of over 18,000 in the present session. The number of graduates, likewise, was reduced from 5,747 in 1904 to 2,529 (the war class) in 1922. Instead of only 1,761 students (6.2 per cent.) enrolled in the higher grade colleges in 1904, there were 16,775 (94.7 per cent.) in 1924. Since 1922 the number of graduates has been increasing by a few hundreds each year, the number in 1924 having been 3,562, including 3,458 (97 per cent.) from the better medical schools. Judging from the larger classes enrolled, the numbers graduating during the next few years will increase to approximately 4,700 in 1927, which will be the largest number graduated since 1908. Thus in five years the increase in the numbers graduating will be greater than the reduction which took place in 14 years. The increase, therefore, was nearly three times more rapid than the decrease and over 90 per cent. of these larger numbers are better qualified medical students. Instead of only 369 (6.4 per cent.) graduating from the higher medical schools in 1903, however, there were 2,347 (92.8 per cent.) who graduated from such schools in 1922.

The number of medical schools has been reduced from 162 in 1906, when the United States had over half of the World's supply, to 79 in 1924. Where there were only 4 (2.5 per cent.) medical schools in 1904 requiring any college work for admission, in 1924, 73 (92.4 per cent.) were forcing the higher entrance requirements.

OTHER MARKED IMPROVEMENTS

Besides the increase in entrance requirements since 1900, however, the medical schools have undergone tremendous improvement in other respects.

(a) There has been a great increase in the number, size and character of medical school buildings.

(b) Endowments for medical education have been increased from a few thousands to millions of dollars.

(c) All medical schools have larger numbers of well equipped laboratories.

(d) There has been a remarkable increase in the number of full-time expert teachers.

(e) Most of the medical schools are centers of active and efficient medical research.

(f) Closer relationships have been established with dispensaries and hospitals by which the supply of clinical facilities has been enlarged and, finally.

(g) Greatly improved methods of instruction in both laboratory and clinical departments have been generally adopted.

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1. In their numerical order and the dates when they were organized, the nineteen medical colleges are as follows:

1. College of Philadelphia Medical Department, now the University of Pennsylvania Medical School, 1765.

2. King's College Medical Faculty, now the Columbia University College of Physicians and Surgeons, 1767.

3. Harvard Medical School, 1782.

4. Dartmouth Medical School, 1797.

5. University of Maryland, 1807.

6. College of the City of New York, 1807. It merged with Columbia College Medical School in 1814.

7. Brown University, organized in 1811. It was closed in 1827.

8. College of Physicians and Surgeons of the Western District of New York, organized in 1812, closed in 1840.

9. Yale Medical School, instruction begun in 1813.

10. Kentucky School of Medicine, organized in 1817. It merged with the University of Louisville Medical School in 1908.

11. Castleton Medical College, organized in 1819. Became extinct in 1861.

12. Medical College of Ohio, organized in 1819. In 1909 it merged with the University of Cincinnati.

13. Medical School of Maine, organized 1820, closed in 1921.

14. University of Vermont, organized in 1822.

15. Berkshire Medical College, organized in 1823, closed in 1867.

16. Medical College of the State of South Carolina, began teaching in 1824.

17. Columbian University, Washington, D. C., now George Washington University, organized in 1825.

18. Jefferson Medical College, organized in 1825.

19. University of Virginia School of Medicine, organized 1825.

By this time the College of Physicians and Surgeons of the City of New York and the Columbia University Medical Faculty had merged, leaving eighteen medical schools in existence.

PROSTATIC SURGERY—RECENT

By N. Bruce Edgerton, M. D., Columbia, S. C.

In 1898 Hugh Young did a supra-pubic drainage on account of failure in an attempt to catheterize an aged man suffering from complete prostatic obstruction; and two weeks later his patient had made such marked improvement that he successfully removed an enlarged prostate. He reported his results in 1899 and since that date preliminary drainage has been used as a part of the preparation in prostatic surgery.

Read before the South Carolina Medical Association, Orangeburg, S. C., April 16, 1924.

They may be drained either by intermittent catheterization or an indwelling catheter, or by a supra-pubic tube. The period of drainage should depend on the condition of the patient—the average case a week or two, an occasional case a month or more, Drainage and forced fluids should continue until the peak of improvement has been reached. Drainage thru an indwelling catheter is preferred by us in this type of surgery.

In 1909 Rowntree and Geraghty presented a paper on the value of phenolsulphonephthalein in the estimation of kidney function. Since that time this red dye test has been accepted universally as an accurate method of estimating kidney efficiency. We can not say that a certain percentage elimination shall be obtained before a prostatectomy should be done. In 50 cases we have not operated until at least a 30% dye elimination had been secured. We consider a 30% function safe.

Since about 1913 an estimation of the retained blood urea has been a part of the routine in hospitals equipped for this sort of laboratory work. The retained blood urea varies in an inverse ratio with the phthalein percentage elimination—with a high phthalein output a low blood urea is the rule. In May 1923 Dr. Hench, of the Mayo Clinic, presented before the American Urological Association the result of extended laboratory investigation, by himself and Miss Aldrich, concerning the estimation of salivary urea and a formula for conversion into terms of blood urea. This test is a simple office test and may be used by any of us not only in estimating urea retention due to prostatic obstruction and the resulting kidney insufficiency, but in kidney destruction due to cardio-vascular disease, pregnancy, or any condition in which kidney insufficiency is suspected.

SALIVARY UREA ESTIMATION

Method of estimating Salivary Urea and a formula for conversion into terms of blood urea.

Two solutions are needed.

Saturated solution of Bicarb. Soda.

5% solution Bicloride Mercury.

Equipment is simple.

Burette, paraffin, white piece china, and two medicine droppers.

In order to stimulate salivary flow have patient chew a piece of paraffin and collect two spec. of saliva of 8 c. c. each—1st. check spec. 2nd. Test spec. Estimation is made using 5 c. c. test spec.

Dr. Hench and Miss Aldrich found in their experimental work certain fixed scientitic facts on which the test is based.

That 1 1-2 c. c. bicloride mercury (5%) is sufficient to neutralize the urea and ammonia contained in 5 c. c. saliva.

That when equal parts of the soda and mercury solution were mixed a brown color resulted. This they use as the color scale and indicator.

That as soon as sufficient mercury is added to the saliva to leave uncombined mercury one drop of the mixture added to the soda will produce the brown color and their end point.

That the normal salivary urea index varies between 30-50 in different individuals and at different times in the same individual.

THE TEST

Put 5 c. c. saliva in cup and run in 1 1-2 c. c. bicloride, then put in the bicloride drop by drop until 6 or 8 additional drops have been added. Then one drop of the mixture is mixed with soda and when the brown color appears after the mixture the end point has been reached.

Example—Say we used 2 c. c. before the brown color appeared our calculation will result as follows: On a basis of 100 c. c. our salivary urea index would be 40.

Formula—B. U. equals; S. U. I. times I. 43 equals 34 therefore B. U. equals 20 Mil. per 100 c. c. blood.

After the aged man has been advanced to the heighth of his improvement the question of anesthesia is the consideration. Ether, gas and oxygen, spinal and sacral anesthesia are the methods commonly used. Since the development and adoption of such precise ideas and methods of preparation ether as an anesthetic has been safely used in a large number of operations by men doing prostatic surgery all over the world. The anesthetist must be especially trained for the other types of anesthesia. Special training is essential in either of the other types of anesthesia and particularly in spinal and sacral management. Gas and Oxygen has proven safer, when administered by a trained anesthetist, than has ether.

Spinal anesthesia in the hands of those accustomed to its use seems safe. It is used much more extensively in Europe than in America. J. Thomson Walker uses Novocain intraspinally in all of his prostatectomies and he is the most prominent English Urological surgeon. Chute and Dr George Gilbert Smith use spinal anesthesia in all of their operations on the lower half of the urinary tract. These two men represent the best talent in Boston. Case of Battle Creek advocates and uses this method in all operations below the umbilicus requiring more than 20 minutes for completion. Babcock of Philadelphia is an exponent of the method. Gaston Labat the Frenchman who was special lecturer at the Mayo Clinic for two years on Regional anesthesia says that with knowledge of the method all fear is dissipated. My experience is limited to six cases. In all of these cases we had complete anesthesia but in two vaso-motor collapse occurred with recovery after the administration of adrenalin intravenously. Our first case is worthy of mention. Mr. W. age 67--referred by Dr. J. S. M. had been bed ridden for six months as the result of a complete hemiplegia. He had so completely lost his sense of equilibrium that had to keep twelve inch board fastened to each side of his bed to allay his fear of falling off the bed. He was admitted to the Columbia Hospital suffering from complete retention of urine the result of an enlarged prostate. His systolic blood pressure was 210 and his pulse

rate was never under 110. We did a preliminary suprapubic drainage and after two weeks proceeded with a spinal anesthesia using 2 c. c. of a 5% sol. novocain injected into the spinal canal between the third and fourth lumbar vertebra. In twelve minutes there was complete anesthesia below the site of injection and we proceeded with the operation. He suffered no shock, pain or discomfort of any sort during the operation and left the operating room after completion of the scheduled work in as good shape as when he entered. He did not have nausea or vomiting or headache after returning to his room and was able to take fluids immediately—a part of the treatment so necessary in these cases. His convalescence was without incident except trouble in inducing him to allow the boards to be removed from his bed. It was time consuming on the part of the nurses and attendants to persuade him that they could prevent him from falling from the rolling chair. In three months after leaving the hospital he was walking about the streets of his town with the aid of a cane. Our feeling is that either ether or gas and oxygen would probably have killed him. We feel that spinal anesthesia has a place in surgery and that Labat is right in saying that acquaintance with the method dissipates the fear. A blood pressure of 100 systolic according to Labat is the only contra indication to its use.

The safest method of anesthesia in prostatic surgery is the sacral, trans-sacral, or pre sacral method. This method consists in the injection through the sacral foramina located on either side of the sacrum the five pairs of sacral nerves, and the filling up of the triangular caudal space with a 2% sol. of novocain and infiltration of the abdominal wall with a 1-2% sol. of novocain. We have studied and practiced the method on the cadaver and have used the caudal as an office method of anethesia. It is perfect for the crushing of bladder stones, for difficult cystoscopy, the removal of ureteral stones, and the dilatations of strictures. It does not interfere with motion and patients may leave the office on their own responsibility.

We have used the complete sacral in two cases only, in one of these anesthesia was complete—the failure was due to improper injection. The method has been received eagerly by our most prominent Urological surgeons and at the last meeting of our national association demonstrations of the method were largely attended and the comments were most favorable. It is certainly entrenched as a safe method of anesthesia in prostatic surgery.

Bleeding after prostatectomy has been one of the chief dangers of the operation until Hagner of Washington demonstrated how efficiently his prostatic bag would control the hemorrhage. We began using his method in 1918 and in the six years no case has died as the result of bleeding. Pilcher of Brooklyn has modified Hagners bag and although more convenient is no more efficient. Either bag will control the bleeding if the torn edges of the capsule are carefully invaginated under the bag. We use in combination with bag hemostasis a large Pezzar catheter drain which is comfortable for the patient and efficient in drainage.

We would urge that the prostatic be operated upon early, however with the present day method the most dangerous risk may by careful attention be advanced to among the reasonably safe risks.

DISCUSSION

DR. C. A. MOBLEY, (Orangeburg):

I think Doctor Edgerton has covered the subject in a complete manner. Prostatic surgery has been a branch of surgery in which I have been deeply interested, and I feel that there is one thing that should be stressed, and that is that we should not allow these prostatic cases, after we find they rise several times at night, to go until they get to the point of complete retention before we advise operation. After the bladder has a certain amount of residual urine the back pressure upon the kidney begins to take place, and finally if operation is not advised

early some of these patients come to operation, when they finally make up their mind they cannot do anything else, and we find the kidney so badly damaged that we have a very poor risk to deal with. I think that is one of the most important things for us to consider. We should look at these patients as if they were acute appendix cases. We all know the only cure for an acute appendicitis is surgery, and there is only one cure for enlarged protate, and that is surgery.

In making routine examination of the prostate, I think it depends largely upon the judgment of the urologist as to whether you use the cystoscope or not. I believe a great many cases will be damaged by the use of the cystoscope. Of course it is preferable where you can use the cystoscope to get an accurate knowledge of the position and size of the gland.

The method Doctor Edgerton outlines for the control of hemorrhage is the Hagner bag. One of the best methods to make it unnecessary to use the Hagner bag is treatment preliminary to the enucleation of the prostate. I believe in decompression of the kidney by catheter drainage through the urethra for a few days before cystoscopy under local anesthesia, using procain, and then continuing the drainage through the suprapubic cavity until the patient's blood urea presents a good picture. I do not think you can state any particular percentage of phthalein as an index for operation. One patient may have a low index, and you might lose the next patient with the same phthalein. But if you get that patient up to his individual maximum you have done all you can do in his particular case. If when you bring it up to 20 per cent. you find his musculature is good, appetite fair, specific gravity not below a certain point, he probably is a safe surgical risk.

Regarding the anesthetic, I do not believe it makes very much difference about the anesthetic given at the time of the removal of the prostate. Personally, I always use ether. Of course we do a preliminary drainage under novocaine, and then we give a little ether and enucleate the prostate in a few minutes. I do not use the Hagner bag unless I have a bad hemorrhage, and I believe long preliminary drainage before the prostatectomy will diminish the congestion of the gland, and that we will have hemorrhage in a fewer number of cases.

DR. GEORGE T. TYLER, (Greenville):

I did not hear all of the paper, but that part referring to anesthesia is of especial interest to me. I have done a good deal of spinal anesthesia, and I find it works very well. At one time I used it for abdominal and pelvic work ,and then I gave it up. Finally I came back to it and am still using it. I have found it very safe and I feel that the more it is used, with proper caution, the better results we will get from it. A short time ago it was my custom to remove a prostate by the suprapubic method, and in order not to insert the novocaine too high we went between the fourth and fifth lumbar vertebrae. I know that is too low to induce anthesia in the abdominal muscles, but following that we anesthetize thoroughly the abdominal muscles and you can then make an incision and expose the bladder and remove the prostate suprapubically without any trouble.

The method of caudal anesthesia is excellent. I am using that more and more for perineal work, and am supplementing that, if necessary, by injection of the abdominal muscles, anesthetizing the perineum and making it perfectly safe and easy to go into the bladder. Once the bladder is opened anesthesia by the caudal route has accomplished all that is necessary in the neck of the bladder.

DR. M. H. WYMAN, (Columbia):

Dr. Edgerton has covered this subject thoroughly from the urologist's point of view. The actual removal of the gland tissue is the comparatively easy part of the management of prostatic cases. The hard part of course is the preparation of the patient, and the different things that the Doctor so well brought out.

In a majority of cases I follow the suprapubic route. There is some advantage in operating by the suprapubic route for drainage. First, the man gets immunity—he vaccinates himself against infection in the bladder, and shock is prevented in the final enucleation of the gland a weak or two later.

The functional tests that the Doctor brought out should be very thorough . The phthalein test gives you accurate information relative to the kidney function.

There has been a great deal said lately about four-wheel brakes on automobiles. It is a serious problem. I do not think anesthesia in this question is a serious problem, because spinal or caudal in the hands of an

expert is safe. But I think it makes a little more complicated case when there is congestion. But you can do the preliminary stage without pain, and then a week later when you enucleate the prostate a little gas will not hurt the patient very much.

The method Doctor Edgerton refers to for the control of hemorrhage has been a serious matter. The bag is a great advantage over the old method of packing with gauze, because when you remove the gauze you leave a raw surface that is apt to bleed again. When the bag is removed you never have any hemorrhage.

DR. GIDEON TIMBERLAKE, (Greenville):

I was very much interested in Doctor Edgerton's discussion of anesthesia. Personally, I have not used regional anesthesia. Being a hard-shelled Baptist I believe in water, and I cannot get away from the fact that what is called old-time religion is very essential. I do not feel that the prostate should be removed just because it exists as such. Contrariwise, I accept Doctor Mobley's views that there are selected cases that should be governed entirely and almost exclusively according to conditions. If such-and-such things are true, then we will resort to this or that. He does not use the Hagner bag—perhaps for the reason I do not—because I do not have one.

As to the phthalein output he suggests that under certain conditions you have a very low phthalein output. That is true. But you should always check this up by the blood content and nitrogenous products.

All prostatectomies are not necessarily done suprapubically. In the heavy cases—a man with a great deal of fat and a fibrinous abdomen, you have to decide on the suprapubic route. If there are chronic or malignant processes, they are for the most part to be attracted by the infrapubic route. Where there is a benign tumor or adenoma, it should be attracted suprapubically. But to say that that thing must be done by a route to conform to some convention laid down by some man—it is all right, but you lose your individuality.

I am quite in accord with Doctor Edgerton's views, but I feel frankly that we should be able to do good surgery under general anesthesia before we undertake to do experimental surgery under something more modern. I am not discouraging it by any means. His quota is very good. But for my own part, due to my lack of opportunity and ignorance, I have not used regional anesthesia. I feel that Doctor Edgerton should be encouraged by every member of the Society to try to further the cause of urology.

DR. N. BRUCE EDGERTON, (closing):

Doctor Mobley has better luck with hemorrhage than we have seen in the work with which we have been associated and that which we have done ourselves. The blood pressure usually falls after the administration of ether, but after these aged men recover from this shock the blood pressure begins to rise again, and in all of these cases we feel much safer to have the simple apparatus which we have discussed in the bladder filled with fluid than to have nothing there. It does not do any harm, it is simple to put in, it controls the bleeding, the fluid can be let out at any time three or four hours after the operation, and if the hemorrhage starts you can put the bag back into the duct in which the bleeding is occurring and control it the second time.

In regard to anesthesia, there is practically no shock with this anesthesia, provided we properly give morphine and the patient is properly prepared. An anesthesia which lasts one hour without shock certainly seems to us to be a very good thing to use. In suprapubic prostatectomy the torn edges of the capsule are trimmed off—not a blind operation as Doctor Timberlake has referred, but an open operation with the retractor in the bladder so you can see what you are doing. Unless it is properly done bands and adhesions form and later on you have interference with the flow of urine. This has been beautifully presented and illustrated in an article in the Lancet by J. Thompson Walker of England. For that reason I feel that where we have opportunity on the cadaver we should try to practice and be able to use this anesthesia as it should be used. We use ether and gas and oxygen. With both of them you have a limit of time to do the operation and get the patient back to bed. With the other you do not add to the shock, and you can take your time and do not feel hurried because you know the anesthesia will last a certain time and not increase the amount of shock.

RABIES

By G. McF. Mood, M. D., City Bacteriologist, Charleston, S. C.

Rabies, as it is called in the dog, and Hydrophobia as it is usually spoken of in the human being, with various synonyms, names used in various countries where the disease occurs, is, "an acute infectious disease of mammals, caused by a specific virus and communicated to susceptible animals by the saliva of an infected animal coming in contact with a broken surface, usually through a bite." The virus itself is harmless when ingested, provided the mucosa (the gums, mouth and throat) are intact. The gastric juice has a pronounced deleterious effect upon it.

As the specific organism which causes the disease is in the saliva, the disease may be caused by licking, provided there are fissures or open wounds upon the skin.

Rabies is probably one of the oldest diseases in existence, but because of the occurrence of so few human cases, and because the disease develops so long after the bite, its source was for a long time unknown, and it was not recognized as a sepearate disease. The disease was first mentioned by Aristotle about 300 B. C., in whose writings it is spoken of as purely an animal disease, and transferred from one animal to another by biting.

Although the disease is mentioned in writings over a period of several centuries, nothing of value was observed or recorded, until 1880, when Pasteur discovered the fact, that the disease may be prevented by inoculating increasing doses of the virus into the person or animal bitten. It may be, as suggested by Fitzgerald, that Pasteur conceived the idea of attenuating the virus and using it as a vaccine, upon the basis of Jenner's work (Jenner having made his crucial experiments with attenuated small pox virus only four years before.)

The causative organism of this peculiar disease is a Protozoon, discovered by Negri of Pavia in 1903. The organism has been named Neurorrhyctes Hydrophobiae, but is generally spoken of as a Negri Body. They occur chiefly in the large nerve cells of the Hypocampus Major, and in the large cells of the Cerebellum. They are constantly present in the saliva, the salivary glands containing them before they reach the brain and establish symptoms of the disease in the dog. The disease has been present in all parts of the world with the exception of Australia, on account of the majority of their native animals being marsupials, and on account of the strict dog quarantine laws, which have been in force for years. It has been observed as far north as Greenland, and as far south as the Philippine Islands. It is practically extinct in the Scandinavian Countries, and has, on several occasions been practically banished from England. At the end of the war it was reintroduced into this country in police dogs taken in air machines. It is found in nearly all the States of the United States. In 1890, 143 human deaths from this disease were reported from 30 of the 48 States.

Since it is primarly an animal disease, it is interesting to note its prevalence in different species:

First, Dogs. Fitzgerald states that 80 to 90 per cent of all cases occur in the dog.

Second, Cats:—Third, Cattle, and next in order, horses, swine, goats, wolves, jackals, foxes, sheep. Birds occasionally contract and die of the disease.

Again, there is no constant and characteristic seasonal incidence, as was formerly assumed, viz. "Dog Days." It is quite true that there are apt to be more cases of the disease during certain periods of the year when dogs are running together, but, it is of importance to note, that the disease is more virulent during the cold months. The disease is remarkable on account of its high mortality—100%. No authentic recovery being known after symptoms have developed. Another peculiarity, is the period of incubation, that is, the time elapsing be-

tween the inception of the bite, and the occurrence of the symptoms of the disease. This period is more variable and more prolonged than that of any other acute infection. The period of incubation varies not only in animals of the same species, but in the different species, thus (Rosenau):

Species.	Average incubation period.
Man	14 days to one or more years, average 40 days. May be reduced to 11 days in children.
Dog	21-40 days
Horse	28-56 days
Cow	28-56 days
Pig	14-21 days
Goat and sheep	21-28 days
Birds	14-40 days

The period of incubation depends largely upon the location of the wound, whether upon a clothed or an unclothed area, the relation to nerves (whether the tissue is rich in nerves), the amount and virulence of the virus, and the nearness to or distance from the central nervous system. As dogs and cats, and most carniverous animals have very sharp and very smooth teeth, bites through clothing are less apt to be infected, and this will vary with the thickness of the clothing, the saliva containing the virus being wiped off. In the same way, animals with thick and long fur are less apt to contract the disease after being bitten. As the active principle travels from the periphery through the nerves only, the nearer the wound to the brain, the shorter the incubation period. Face bites are therefore relatively more dangerous than bites upon the extremities.

The active principle occurs in the saliva chiefly, and it may remain here from three to eight days before it reaches the animals brain, and the animal show symptoms of the disease, therefore after a bite has been inflicted, the biting animal should be quarantined and watched for a period of at least eight days, or better, ten days. If well at the termination of this period, the one bitten need not take the preventative treatment, and if this has been begun, it may be stopped. It is interesting to note that the active principle has been found elsewhere than in the saliva and central nervous system, thus (Rasenau) it may be found in the Adrenal Glands, the Tear Glands, the Vitreous Humor of the eye, the Spermatic Fluid, the Urine, the Lymph Milk, Spinal and ventricular fluids.

It is interesting again to note that the active principle seems to have greater virulency, disease producing power, when in the saliva of certain animals, than in others, the bites of the former being relatively more dangerous than those of the latter, thus:

The most dangerous bite is said to be that of the wolf, next comes that of the cat, then the dog, and in order, the fox, jackal, horse, ass, cow, sheep, pig.

Not every person bitten by a rabid animal develops Rabies. LeBlanc's figures are 16.6%. That is, that only 16 or 17 out of a hundred of those bitten will have the disease. Paltauf in Russia places the figures at 6 to 9%. In America the figures are placed at about 10%.

The virus retains its viability under various adverse conditions, viz. When kept dry at 20-22° C. it dies in 14 days. When kept dry and exposed to the sun, it is killed in 40 hrs. It is quite resistent to putrefaction, and will live for 5-7 days in 5% solution of Carbolic Acid, and for 20 days in a five tenths percent solution. It retains unaltered its virulence for about three months when kept in glycerine and when dried rapidly at a low temperature and kept in vacuo, will retain its activity for 6 months. It is easily destroyed by heat, 50° C. maintained for one hour, or 60° C. for a half hour will destroy it. Extreme cold has no effect upon it.

While the virus retains its viability for a period when dried, it looses to some extent its virulence, and, being noted by Pasteur, was used, and is still used in some laboratories, as the best means of attenuating the virus for vaccine preparation.

The prevention of this disease may be divided into. (1) Treatment of the wound.

(2) Preventative treatment with vaccine.
(3) Control of the disease in dogs and cats.

As soon as one is bitten, whether it has or has not been determined that the animal is rabid, the wound should be thoroughly cauterized with fuming Nitric Acid. This is best done with a fine glass rod, or better, fine capillary tube. No matter how extensive the wound, this cauterization should be carefully carried out. In fact, the more extensive the wound, the more care should be taken. As the acid burns intensely, a local or general anesthetic may be used. The proper cauterization may be the determining factor as to whether the disease will or will not develop.

The wound should be cauterized even though it may be 48 hours old, and closed up. It should be opened, and the deepest portions treated. Poor was able to save 45% of experimentally inoculated guinea pigs after 24 hours by the use of nitric acid applications to the wound alone.

The treatment of the disease itself depends upon the fact, that, repeated injections of doses of the virus too small to produce the disease, will gradually bring about in the person or animal treated, sufficient resistance to the disease, to prevent is occurrence. The degree of resistance (immunity) necessary to prevent the disease is reached fifteen days after the last dose of vaccine is given. As in this State, 21 doses are given, over a period of the same number of days, the necessary resistance is reached only upon the 36th. day after treatment is begun. As the incubation period in face bites may be shorter than this time (36 days) some places give a shorter course of treatment in these cases.

When sufficient resistance is not esatblished within the incubation period, there is from 10-17 chances in a hundred of the patient developing the disease. The treatment in itself is not dangerous, and there are no contraindications to its use. The treatment will not cause the disease. Occasionally some local irritation may result from the injection, and may even abscess, but this is rare. Again, paralysis, usually of a transient form may develop in adults, rarely in children. There have been reported 19 deaths from paralysis following rabies treatments out of 217,774 persons treated.

The most important method of controlling the disease, is to stamp it out in the animal carriers.

As has been stated England is practically free from the disease, and was for some years entirely so. In England, legislation requiring muzzling, leashing and registration of all dogs was passed. All stray or ownerless dogs are destroyed. All dogs brought into the country are quarantined for six months at the owners expense. These methods of control have resulted as follows:—(Fitzgerald).

Before regulations were passed.
There occurred in 1887—217 cases of Rabies
There occurred in 1888—166 cases of Rabies
There occurred in 1889—312 cases of Rabies

Regulations were then enforced with results as follows:
There occurred in 1890—189 cases.
There occurred in 1891— 79 cases.
There occurred in 1892— 38 cases.

At this time owing to the activities of Antivivisection, Anti cruelty to Animals and other sentimental organizations, the laws were repealed with the following results:
In 1893 there occurred 93 cases.
In 1894 there occurred 249 cases.
In 1895 there occurred 672 cases.

Here common sense dictated a return to the former policy, with results as follows:
In 1896 there were 438 cases.
In 1897 there were 151 cases.
In 1898 there were 9 cases.
In 1900 there were 0 cases.

After the disease was eradicated (in approximately two years) all laws except registration, quarantine and the destruction of all ownerless dogs were abolished.
Local Conditions—1924.
Dogs examined for Rabies 58 Positive 40.
Cats examined for Rabies 12 Positive 9.
Total --------49 positive .

Patients treated at the City Laboratory

for protection against bites of rabid animals, 51. Eight cases are under treatment at this time. All suspicious animals killed were not brought to the laboratory for examination, and all persons bitten were not treated at the laboratory, so that the above statistics are incomplete.

In my opinion, the prevalence of Rabies locally, is serious, especially as regards the spread of the disease to cats, in whom the virus is more virulent than that in the dog, and should be reconed without loss of time, and in a manner which will insure of its being stamped out in as short a time as possible. For the accomplishment of this, I would suggest for your consideration the passage and enforcement of laws embracing the following:

1. Preventative treatment of all dogs in the city. This vaccination protects the dog against the disease for a period of from one to three years.
2. Registration of all dogs.
3. Require muzzling or leashing of all dogs on the streets as a temporary measure, until control of situation is established.
4. Have all ownerless, and all unmuzzled dogs on streets destroyed.
5. Have all ownerless cats destroyed. (This latter will necessitate night hunting, as cats prowl about mainly at night.)
6. Education of the public to a sympathetic support of these measures.
7. The examination of all dogs and cats destroyed, for evidences of the disease.
8. Quarantine and careful observation of all animals which have bitten human beings.

SURGERY

SAMUEL ORR BLACK, M. D., Spartanburg, S. C.

GAS BACILLUS INFECTION

The mortality in war surgery or gas infection of the thigh was 50% and of the leg 33%, even when subjected to the most radical surgical treatment, according to Page, in the Southern Medical Journal in December, 1923.

That author cites two cases, each resulting from compound, comminuted fractures due to railroad accidents.

In each instance the extremity was amputated high above the site of injury, soda bicarbonate was given in dram doses every four hours; the wounds were cleansed with hydrogen peroxide and irrigated constantly with Dakins solution.

Gas Bacillus infection is often a rapidly fatal one. It is due to the Bacillus of Welch or B. aerogenous capsulatus. The bacillus itself is large with square cut ends, non motile and anaerobic. It forms capsules in the animal body; and is found in intestinal contents in the soil or in the dust and dirt of streets and floors.

The most characteristic lesion produced by this bacillus is the emphysematous crackling detected by palpation and due to the formation of gas in the tissues and its retention there.

Upon the human organism this infection manifests itself both locally and systemically.

Systemically, the effect at once is profound. The temperature rapidly rises and may touch 104 or 105. The pulse quickens to 130, 40, or 50, becomes thin, feeble and then runs. At the onset profuse perspiration is not uncommon. Capillary cyanosis is frequently present and delirium, partial or complete, supervenes as the toxemia increases.

Locally, the condition sets in at the site of a wound. It spreads rapidly, pain is

more or less intense, swelling quickly begins, the skin peels off, crackling of the subcutaneous tissues is present, the parts become anesthetic and pulpy; the tissues become pale, friable, necrotic, then completely gangrenous and there is a characteristic odor, due to the formation of the sulphide of hydrogen and ammonium gases.

Clinically, this condition may be confused with the lesion produced by the bacillus of malignant edema. This organism produces extensive edema, some gas formation, necrosis and gangrene. Basteriologic culture readily differentiates the two.

The writer has had three cases of Bacillus Welchii toxemia with gangrene. The first one developed in the abdominal wall to the right of the lower end of an appendiceal operative wound. It started about nine hours after the operation. The patient suddenly developed a rather severe pain, which promptly intensified itself. Within a few moments he was in a profuse sweat with a rising temperature and a running pulse. A small area of crepitation was soon discovered and within an hour it had spread extensively. Multiple incisions were made down to the muscles—through and through drainage was established, and the wounds were cleansed with hydrogen peroxide, constantly applied by moist dressings.

The patient lived and eventually recovered, notwithstanding a pneumonia first on one side and then on the other, both of which were followed by empyema, which of course necessitated further surgical measures.

The second case was that of a male child aged 14 years, who suffered a compound fracture of both bones of the left forearm. Fifteen hours later the child was crying with pain, and the family physician undid the splint and on manipulation, discovered much swelling around the wound and detected "crackling" beneath the skin.

Free drainage was established promptly, but a few hours later the child was decidedly worse, the edges of the incisions were turning dark, the swelling had extended to above the elbow, and gas was rapidly accumulating—shoulder joint amputation was then performed, and the child eventually recovered.

The third case occurred in a young man, the captain of a high school football team, and apparently followed an abscess of a lower molar in the opposite jaw. It began as a swelling with much pain in the tissues of the neck below the right mandible. Sixteen hours later this swelling burst and a small amount of thin watery discharge exuded.

Within a short time, the edges of this newly formed opening took on a dark color, the boy rapidly grew worse. All local and systemic symptoms pointed conclusively to the diagnosis of emphysematous gangrene.

The entire area was laid wide open by his physicians and the wounds were dressed every fifteen minutes with hot potassium permanganate dressings alternating occasionally with hyrogen peroxide.

Though this young man was desperately and dangerously ill for some hours and notwithstanding the sloughing of much of the platysma myoides, the sterno-mastoid, the pictoralis major and even a portion of the trapezius, yet he too eventually recovered.

SOCIETY REPORTS

MEETING MEDICAL SOCIETY OF SOUTH CAROLINA, CHARLESTON, S. C.

The bi-monthly meeting of the Medical Society of South Carolina was held at Roper Hospital, November 25, 1924, at 8:30 P. M. Out of an enrollment of 74, 37 were present. Several visitors were present, including Mr. Alexander Sprunt, Jr., and Mr. Burnham Chamberlain, of the staff of the Charleston Museum. Routine business of the Society was transacted. The following new members were elected: Drs. W. P. Rhett, J. C. Beckman, and B. R. Baker.

The scientific program began with a medical case report. Dr. O. B. Chamberlain reporting a case of hydrophobia:

"Wilhelmina Deas, a negro girl of 14, from Meggetts, S. C., was brought in the Emergency Room on the night of October 19, 1924, with the following history: Two days before, on the 17th, she was bitten on the left cheek by a dog. This dog was supposed to be mad, and, according to the patient's mother, it had bitten two other children. The dog had been shot and its head so badly torn that no attempt was made to send it to the laboratory. The child had been taken to a doctor just after the accident, but his name was not gotten by the interne on emergency duty, nor was it ascertained whether he cauterized or otherwise treated the wound.

In the Emergency Room the wound, which was lacerated but did not penetrate the cheek, was painted with the tincture of iodine. It had begun to granulate and was partially closed. The child was told to return for the series of antirabic serum. These were begun on the 21st and continued daily until the 30th, on which date she did not appear. She returned on the 31st, with a trivial excuse, and came regularly until the 5th. The wound had been healing uneventfully and dressings had been discontinued. The child seemed perfectly well and did not appear excited or emotional in the slightest degree. On the early morning of the 8th she was brought to the Hospital with the history, that she had felt "bad and nervous" on the day and night preceding. She was admitted to the ward. She was frightened, nauseated, and very restless. An attempt to give her bromides met with a spasm, and she was given a hypodermic of codeine. She refused to go to bed, apparently being more comfortable sitting in a chair. Her temperature was not taken on admission because of her excitement when anything was placed in her mouth. She was seen by the writer at 10:30. She presented the picture of a frightened colored girl sitting huddled up in a chair. Her answers to questions were perfectly rational. She showed no outbreak of emotion when the history of the bite was recalled. Getting the history from the nurse of the so-called spasms when swallowing was attempted, it was suggested that a glass of water be brought into the room, a most remarkable outburst occurred. The child made a straggling, choking noise and sprang straight up from the chair, almost knocking the examiner down, and incidentally frightening him rather badly. She subsided into the chair when the water was removed. Questions as to just how she felt when she saw the water elicited nothing. The child was not able to analyze her feelings, and the act seemed rather a sort of involuntary reflex. The experiment was repeated once, as a check, and the same result followed.

"On account of the uncertain symptoms which might develop, it was thought better to transfer the case to one of the isolated rooms. Consultation was asked with the Medical Serivce. It might be said at this point that the wounds were quite healed. No inflamed or angry appearance of the scar was noted. Because of the visiting physician's very limited knowledge of the suspected condition, the interne, Dr. Etheridge was instructed to get in touch with Dr. Mood and follow his instructions. Nothing was given by mouth. Hypodermics of morphine were ordered to quiet.

"After transferring out to Psychiatry, the girl became very much excited and screamed and cried a good deal. She was rather rigid and had tonic spasms, resembling tetanus. Foamy saliva came from her jaws. Mag. Sulphate was given in 1 cc doses intramuscularly, and I drachm Sod. Bromide with 20 gr. of Chloral Hydrate by stomach tube. At the suggestion of Dr. Mood an intravenous injection of neosalvarsan.

This was at 1:30 P. M. She perspired very

freely after this and vomited. Her temperature was noted as 103 by axilla with a pulse rate over 120, with a question as to exact rate. Her respirations were relatively slow, being 20. This was possibly due to the morphia. During the afternoon the vomiting continued, the pulse became weaker, and she died at 6:45.

--"**Laboratory:**

Urine—No urine was examined. She did not pass any voluntarily in the morning, and in the afternoon she voided involuntarily.

Blood—Hgb.—95 Dare.

Total White		14,760
Polys.	74	
Small Lymph.	14	
Large Lymph.	10	
Mononeuc	1	
Transitional	1	

No lumber puncture was done."

The paper of the evening was read by Dr. G. McF. Mood on "Hydrophobia", a copy of which appears elsewhere in this Journal. This report and paper elicited considerable discussion. In his paper, Dr. Mood who is City Bacteriologist, brought out the fact that more than 50 individuals had been given the Pasteur treatment during the past 6 or 8 months, and that 50 odd animals had been found to be rabic on pathological examination. Among the animals were 12 cats, 9 of whom were found to be positive. Dr. J. M. Green, City Health Officer, in discussing the epidemic of rabies in Charleston, pointed out that the Board of Health was very much concerned and was making every effort to cut down the number of cases present in the city. He stated that the city had recently adopted a dog ordinance, which when properly enforced would do much towards the elimination of this dreadful malady. He stated that the Board of Health had under way plans for wide publicity as to methods of prevention; that it had urged City Council to provide the Police Department with adequate funds to enforce the ordinance.

Under **Surgical Case Report,** Dr. D. L. Maguire exhibited a case of a boy who had been badly bitten by a shark while in swimming at Folly Beach. The following is a summary of the report made:

"This patient a young white adult, 21 years of age, was admitted to Roper Hospital July 31, 1924, at 5:00 o'clock in the afternoon. He gave the following history: He was in the surf, about up to his waist, at Folly Beach, at 3:00 o'clock the same afternoon, and was suddenly attacked by a large fish which he thought was a shark. He was rescued by some people at the Beach and, on being brought out of the water, it was found that he had an extensively mangled wound of the calf of his right leg, and that he had several wounds also on his left leg. These wounds were bandaged and the patient was hurriedly transported to Roper Hospital.

"On admission, the patient's general condition seemed fair. His pulse was 80, temperature 99, and respiration 28. Shock, apparently, was not present, so that he could not have had very much hemorrhage. On examination of his legs it was found that he was suffering with an extensive lacerated and mangled wound of the calf of his right leg. Both the gastrocnemii and solei muscles had been torn across and lay hanging out on the outside of skin. The tibia posteriorly was partly bared. On examination of the left leg, it was found that he had three lacerated wounds around the patella and upper portion of the tibia.

"The patient was immediately ordered to the operating room and there the wounds were sutured. The wounds were sutured with plain gut No. 2, being accurately approximated. The skin was sutured with silk worm gut, interrupted. In all, over one hundred sutures were inserted. The operation consumed about one hour and twenty minutes.

"The patient was removed from the operating room and placed back in bed, in very good condition.

"The recovery of the patient was rather uneventful. The wound showed some slight infection. Sutures were removed on 10th day, and what appeared to be a tooth was removed from the tissues on this day. The wound, up to the 21st day, showed some slight sero purulent discharge.

"The patient remained in the hospital for 28 days, when he was discharged in good general condition. His wounds were practically healed except two small wounds, one on the anterior surface and another on the lateral aspects of the leg. He was instructed to report to the out-patient ward for further dressing and observation.

"The patient came regularly to the out-patient department where his leg was dressed every other day. On September 10, 1924, a slight swollen tender spot appeared on the lateral aspect of the scar and on incision, two teeth were extracted.

"On November 4, 1924, the patient was

readmitted to the hospital on account of a tenderness in the region of the left patella. This was X-Rayed and reported that apparently a tooth was present underneath the skin. He was operated on and another tooth removed from that region. He remained in the Hospital until November 14, 1924, when he was discharged in good condition and his wound over the patella healed.

"During the 1st stay in the Hospital his urine was examined several times, with negative results. Also a negative Wassermann was reported."

Mr. Alexander Sprunt of the Museum Staff led the discussion and pointed out that the teeth which had been removed from the boy's wounds were fragments of the teeth of the sand, or shovel-nosed shark, which was one of the common sharks in the waters in and about Charleston. He briefly discussed the various types of shark and biting fish. He pointed out that the injury could not have been inflicted by the baracuda, which was first thought to be the case. He stated that the baracuda did not come so close to shore and that their teeth were shaped differently from the fragments found in the boy's wound; that, considering the number of shark i the waters of the South Carolina Coast, the shark bite was rather an unusual occurence. He stated that sharks were more likely to bite an object that was standing still; that they rarely interfered with a body in motion. This case report was discussed by a number of physicians present.

W. ATMAR SMITH, M. D.
Secretary.

BOOK REVIEWS

NEUROLOGIC DIAGNOSIS. By Loyal E. Davis, M. D., Associate Professor of Surgery, Northwestern University Medical School; Fellow of the National Research Council. 12mo. of 173 pages with 49 illustrations. W. B. Saunders Company, Philadelphia and London: 1923, Cloth, $2.00 net.

With a better knowledge of nervous disorders will come the unraveling of many complex problems in diagnosis. This author has made a definite contribution to this end.

MANUAL OF OBSTETRICS, by John Cooke Hirst, M. D., Associate in Gynecology and Obstetrics Graduate School of Medicine, University of Pennsylvania; Associate in Obstetrics, School of Medicine, University of Pennsylvania. Second Edition, Entirely Reset. 12mo of 551 pages with 229 illustrations. Philadelphia and London; W. B. Saunders Company, 1924. Cloth, $4.50 net.

This is a splendid book thoroughly revised. The illustrations are admirable and the text creditably presented.

A TEXT-BOOK OF PATHOLOGY. By William G. MacCallum, M. D., Professor of Pathology and Bacteriology. Johns Hopkins University, Third edition, Thoroughly revised. Octavo volume of 1162 pages with 575 original illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $10.00 net.

Pathology is becoming more and more to deserve the constant study of not only the specialist in this line but particularly the busy practitioner in medicine and surgery. The author in this edition calls attention to a newer knowledge of rickets, diabetes, tumors and infections, encephalitis typhus, etc. The illustrations numerous and illuminating.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued Serially, one number every other month.) Volume VIII, Number III, November, 1924. (Philadelphia Number.) Octavo of 324 pages and 29 illustrations. Per Clinic year (July, 1924 to May, 1925). Paper $12.00; Cloth $16.00 net. Philadelphia and London: W. B. Saunders Company.

These clinics are now put up in a very attractive form, well bound, in regular book form in fact. The November number is rich with material for the internist. The first article on pneumonia by Riesman is good, well worth reading. Attention is called to several important matters as for instance the following:

1. The less handling the better.
2. No sponging except in unusual cases.
3. No company.

4. Ice-cap to the head and alkalinization of the patient.

He recommends digitalis early in all serious cases. In children he suggests the old fashioned flax seed poultice. He calls special attention to care in convalescence.

THE PRACTICE OF PEDIATRICS. By Charles G. Kerley, M. D. Formerly Professor of Diseases of Children, New York Polyclinic Medical School and Hospital, and Gaylord W. Graves, M. D., Associate in Diseases of Children in the College of Physicians and Surgeons, New York City. Third Edition, revised and reset. Octavo of 922 pages, 150 illustrations, Philadelphia and London: W. B. Saunders Company, 1924. Cloth $9.00 net.

This has been one of the most popular books with the general practitioner especially on the subject. The revision has been very much to the improvement of the book.

A MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR. By E. B. Gleason, M. D., Professor of Otology in the Medico-Chirurgical College Graduate School, University of Pennsylvania. Fifth Edition, thoroughly revised. 12mo of 660 pages, 212 illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $4.00 net.

Gleason has given the profession a pre-eminently practical book with many good ideas for the busy man to grasp quickly and put into practice.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued Serially, one number every other month. Volume VIII, Number II, (September, 1924, Chicago Number). Octavo of 273 pages and 24 illustrations. Per clinic year (July 1924 to May 1925). Paper $12.00; Cloth $16.00; Philadelphia and London: W. B. Saunders Company.

The Chicago number is equal in interest to the predecessors. One of the best articles in this one is on "Pyloric Stenosis in Infancy," by Gerstley and Wilhelmi.

DEVELOPMENTAL ANATOMY. A Text Book and Laboratory Manual of Embryology. Py Leslie B. Arey, Professor of Anatomy at the Northwestern University Medical School, Chicago. Octavo volume of 433 pages, with 419 illustrations, many in color. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $5.50 net.

A volume of this kind must necessarily be rich in illustrations and the reader will not be disappointed in this regard. We are pleased to recommend the book for medical students especially.

HUMAN CONSTITUTION. A Consideration of its Relationship to Disease. By George Draper, M. D., Associate in Medicine at Columbia University, New York City. Octavo of 345 pages with 208 illustrations and 105 Tables. Philadelphia and London: W. B. Saunders Company, 1924. Cloth. Cloth $7.50 net.

In this rather unique volume the author states his object in writing such a book as follows: First it attempts to present to the physician a dependable method for studying morphology; second, to point out the inadequacies of the existing observational and descriptive procedure; and third, to emphasize the interest and importance of the Study of Human Constitution.

OPERATIVE SURGERY. Covering the Operative Technic involved in the operations of general and special surgery. By Warren Stone Bickham, M. D., F. A. C. S. Former Surgeon in charge of General Surgery, Manhattan State Hospital, New York, Former Visiting Surgeon to Charity and to Touro Hospitals, New Orleans. In six Octavo volumes totaling approximately 5400 pages with 6378 illustrations, mostly original and separate Desk Index Volume. Volume V containing 880 pages with 1118 illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $10.00 per volume. Sold by subscription only. Index Volume Free.

The entire profession as we have said before is tremendously indebted to Dr. Bickham for his magnificient work on operative surgery. The author is a Southern surgeon by training, and in New York has forged to the front with one of the most elaborate series of volumes on "Operative Surgery" ever published in America.

ESSENTIALS OF PRESCRIPTION WRITING. By Cary Eggleston, M. D. Assistant Professor of Pharmacology, Cornell University Medical College, New York City. Third Edition, Revised. 32mo of 146 pages, Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $1.50 net.

Prescription writing is in danger of becoming a lost art without frequent contributions such as the author has given us.

ABT'S PEDIATRICS. By 150 specialists Edited by Isaac A. Abt, M. D., Professor of Diseases of Children, Northwestern Uni-

versity Medical School, Chicago. Set complete in eight octavo volumes totaling 8000 pages with 1500 illustrations, and separate Index Volume free. Now ready—Volume V containing 865 pages with 373 illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth $10.00 per volume. Sold by Subscription.
A large part of this most excellent volume is devoted to orthopedics and to diseases of the bones, though many other subjects are treated.

DISEASES OF THE HEART. By Dr. Henri Vaquez, Professor of the Faculty of Medicine of Paris; Translated and edited by George F. Laidlaw, M. D., Associate Physician to the Fifth Avenue Hospital, New York City; Introduction by William S. Thayer, M. D., Johns Hopkins Hospital, Baltimore, Md. Octavo volume of 743 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1924. Cloth $8.50 net.
The output on "Diseases of the Heart" in recent years has been enormous. The translator says that this book was written for the general practitioner by the foremost cardiologist and that it is the most popular text book throughout latin Europe on the diseases of the heart. The radioscopic as presented here are especially rich in information.

A LABORATORY GUIDE IN HISTOLOGY. By Leslie B. Arey, Ph. D., Professor of Anatomy in the Northwestern University Medical School, Chicago. Second Edition, Revised. 12mo of 96 pages. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $1.25 net.
The writer has presented a small but practical book worthy of the students notice.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 4 number 4 (Cleveland Number—August, 1924,) 248 pages with 218 illustrations. Per clinic year (February, 1924 to December, 1924.) Paper $12.00: Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company.
The Cleveland clinic is one of the most virile clinics of this country and is the mecca for numerous surgeons. Dr. Crile has a world wide reputation as a master surgeon of that city. There are many good articles in this book, however, by other authors.

MANUAL OF PSYCHIATRY. For the Medical Student and General Practitioner. By Paul E. Bowers, M. D., Examiner in Lunacy, State of California; Lecturer in Neuropsychiatry, Post-Graduate Medical School of the University of California, Los Angeles. Octavo volume of 365 Pages. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $3.50 net.
The field of pshychiatry is of an ever increasing interest, not only to the expert, but to nearly all of the practitioners of medicine and surgery. The whole subject of deviations from the normal mind is of intense interest from both a theoretical and practical point of view. The subject has not only been treated exhaustively by writers of fiction from time immemorial but all schools of medicine have found the subject worthy of investigation. The medical schools have not stressed pshychiatry as they should in the curriculum, though this feature is improving. The matter of prevention of mental diseases is of more recent origin and gives hope of some success. The author outlines in a satisfactory way the all important question of how to examine a patient, among the other good things in the book.

ABT'S PEDIATRICS. By 150 specialists. Edited by Isaac A. Abt, M. D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. Set complete in eight octavo volumes totaling 8000 pages with 1500 illustrations, and separate Index volume free. Now ready—Polume IV containing 1271 pages with 271 illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $10.-00 per volume. Sold by Subscription.
The fourth volume treats largely of diseases of the chest and the blood, though diseases of the kidney and genito-urinary system are fully elaborated.

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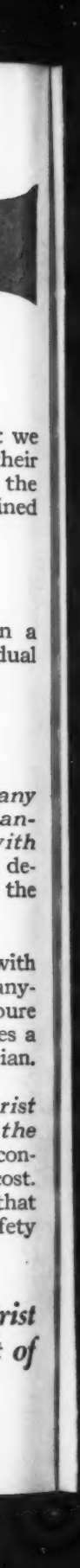
The Gilchrist method of chlorine treatment and the Gilchrist Chlorine Ejector were devised by Lt. Col. Harry L. Gilchrist of the Medical Corps of the U. S. Army.